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#2963

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Date of request 2/16/96 Expected receipt of document 3/16/96

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#2963

*SAC*  
INTER-COMPANY CORRESPONDENCE

(Insert Name) COMPANY Carbide and Carbon Chemicals Corp. LOCATION Post Office Box P  
Oak Ridge, Tenn.

TO: S. C. Barnett  
LOCATION: K-1001, A-217

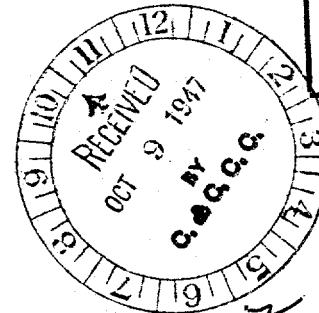
DATE: October 1, 1947

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G. T. E. Sheldon  
S. Visner

SUBJECT: Water Contamination

PLANT RECORDS DEPT. CENTRAL FILES
REC. C 13882
FILE
X-REF.
X-REF.

REPORT NO.  
KZ 5229



A survey has been made of all locations on the K-25 area where samples of ground or drain water are desirable on the basis of possible contamination with uranium and fluorine. The attached listing of locations has been reviewed with several members of the K-25 Special Hazards Committee and their suggestions are incorporated.

The Health Physics Section is engaged in taking an initial set of 23 samples as listed on page six and in the last column of the attached table.

It is proposed that, as soon as the laboratory analysis of the initial set of samples are available, K-25 Special Hazards Committee review the program as outlined in this memorandum and decide on the number, frequency and type of analysis required. In addition, the responsibility of taking the samples for future surveys should be decided.

In discussions with Dr. Hurd, it was tentatively agreed that if preliminary investigations indicate the need, a sampling frequency schedule as follows could be handled by the analytical group:

- a. Drinking water and effluent from K-25 into Poplar Creek-once a day.
- b. The 13 samples on page six-once a week.
- c. The 10 collected samples in the last column-once a month.

This document has been approved for release  
to the public by:  
John W. Hall, A. S. Geissler, 6/24/46  
Technician Information Officer  
OAK RIDGE K-25 Site  
Date

Classification changed to: UNCLASSIFIED  
(level and category)

John W. Hall 2/2/96  
AMC or DOD signature (first reviewer) Date  
Theresa W. Selby 2/2/96  
AMC signature (final reviewer) Date

RADIATION HAZARDS DEPARTMENT

*Sidney Visner*  
Sidney Visner

SV/jr  
  
This document contains information affecting the  
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Carbide and Carbon Chemicals Corporation Operating  
Contractor for the U.S. Atomic Energy Commission.

**INTER-COMPANY CORRESPONDENCE**

(Insert Name) COMPANY Carbide and Carbon Chemicals Corp. LOCATION Post Office Box P  
Oak Ridge, Tenn.

TO: S. Visner  
LOCATION: K-303-8, room 19

DATE: September 23, 1947

Attached to this letter is a comprehensive listing, in tabular form, of possible sources of contamination under Carbide jurisdiction, their drainage possibilities, and the best points at which check samples may be taken. This represents the results of a thorough survey conducted at your request.

In the last column and on page six are listed twenty-three sample points at which drainage from several possible sources collects for convenient sampling. Results on water counts from a set of samples taken at these points should give a good picture of the water contamination hazard presented by K-25. Further collection (i.e. reduction in number of samples) is possible but the dilution involved might obscure results.

The more specific points supplied in column seven allow for complete investigation of any building or group whose collected sample is positive or suspect. The number of sample points included in column seven, however, totals ninety-five, making it highly impractical to use these specific points for any routine check, or even for anything but the most exhaustive initial check.

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W. J. Clossey  
Health Physics Section

WJC/jr

WATER CONTAMINATION CHECK CAN TIE 17

Contain. Bldg.	Building Identificatior	Possible Source or Sources of Contamination	Drainage Possi- bilities	Ground Drairs	Ultimate Drair	Proximate Specific Sample Points (Circled no. indi- cates no. of samples)	Collected Sam- ple points
K-1239	Contaminated sludge pit	Earth bottom of pit al- lows seepage.	Seepage only	Ditches each side of hill	Poplar Creek N.of K-303-	(3) Each ditch near patrol road, and at junction of two	Downstream of SD opening in 1st W of Poplar Creek Road.
K-302 K-303to7	Process Bldg "	In all process Bldgs. From vents to ground here to SD. From spills or reaction products hcsed, washed to ground to SD	SD & SS	Thru catch basins to SD	Poplar Creek via inlet W of Poplar Creek Road	(?) 32" pipe opening to inlet and at SS manholes*	(1)
K-1037	Formerly ware- house for proc. equip. storage. Sand blast shed	Dusting or washing to ground or to SD system	SD & SS	Thru catch basins to SD	Poplar Creek via inlet W of Poplar Creek Road.	(1) 24" pipe opening at N. fence of R.R. gate	
K-1069							
K-1218	Contaminated Solution Storage Yard	Contamination from drums rain washed to ground, plus possible leakage seeping into ground.	Open ditches only	Unlined ditches	Poplar Creek via inlet	(2) Ditches crossing NE patrol road	
K-1301 K-1303 K-1409	C-216 Mfg. Decontam. & Recovery change house	Dusting and washing thru sinks and floor drains to SD & SS and (in case of 1303) hcsed to ground outside bldg.	SD & SS	Thru catch basins to SD	Poplar Creek via inlet	(5) 8" & 18" SD pipe openings W at K-1218 and 42" pipe opening at K-1409-A plus nearest SS manholes*	

(consult building print)

Contam. ID#	Building Identification	Possible Source or Sources of Contamination	Drainage Fossil- bilities	Ground Drains	Ultimate Drain	Proximate Specific Sample Points	Collected Sample Points
-1401	Conditioning Bldg "K" area	Dusting & Washing thru sinks and floor drains	SD & SS	As above (out- side contam. poss. neg.)	Poplar Creek via inlet	(1) (or more) near- est SS manholes* No satisfactory data on SD open- ings available (tied into systems serving K-1303, permits no "resolu- tion").	
-1405	Formerly C-216 disposal, now Design-Develop- ment Lab.	Dusting & Washing thru sinks and floor drains, plus hosing to SD.	SD & SS	Thru catch basins to SD	Poplar Creek via inlet	(3) At opening of 42" drain flow between K-1218 and holding pond and at nearest SS manholes*.	
-1406			SD	....	Poplar Creek via inlet	(2) Outlet, West of holding pond and ditch across "petrol Road for ground seepage."	
-1407-A	Neutralizing pit	Seepage - Drainage	SD	....	Poplar Creek		
-1407-B	Holding pond						
-101	Feed Point used for 616-816 sep.	Possibility slight	Either	Thru catch storm basins to SD	Poplar Creek "Bayou" SW of garage area (and disposal plant understruc-	(16) At three 42" pipes to ditch south of K-1024, and at SS manhole*	
-601	Tails removal	Possibility slight		drainage sys. or sanitary sewer	where SS appears Col 4)	of drain- age ditch in "Bayou"	
-311	Process Bldgs.	In all process bldgs.				SW of Garage Area	
-310	"	from vents to ground					
-309	"	hence to S.D. From					
-301	"	sills or reaction					
		products hosed, washed					
		to ground to SD.					
-1060	Storage Yard	Contam. from equip. rain washed to ground to SD					

Content.	Building Identification	Possible Source or Sources of Contamination	Drainage Tessi- billier	Ground Drains	Ultimate Drain	Proximate Specific Sample Points	Collected Sample points
K-103-13 K-103-14 (K-103-15)	Dumps & Product Bldgs. (K-27)	Small spills hosed, washed or dust drift to ground or interior drains.	SD & SS	Thru catch basin to SD	Poplar Creek w/Bayou SW of garage	(2) Culvert opening at N end of ditch K-1 K-722 & at SS manholes.	
K-103-24 A-103-C- E	Works Lab.	Material washed thru sink drains to SS system; spillage and dusting to floor drain and SD.	SD & SS	As above (Outside cen- tation of garage poss.neg.)	Poplar Creek via concrete lined ditch N of K-1025-C	(7) At 3 42" pipe open- ings S of K-103-4; at pipe opening outside perimeter gate at SE corner K-1002 and at each SS manhole.	
K-103-7 K-10	Process Bldgs.	From vents to ground thence SD & SS to SD. Fr. spills of re- action products hosed or washed to ground to SD.	SD	Thru catch basins to SD	Poplar Creek via concrete lined ditch N of K-1025-C	(5) In both ditches, at two 32" pipe openings and at SS manholes	
K-103-25 A-103-C- E	Shipping drum warehouses.	Rain washed to ground thence to SD	SD only for K-1025-C			(3)	
K-104 K-105-to 7 W	Process Bldgs.	As given above.	SD & SS	As above	Poplar Creek N of K-1025E and W of K-304	(10) At pipe opening to ditch at Poplar Creek at SS manholes	
							(4)

(consult building print)

4

<u>Contain.</u>	<u>Building Identifications</u>	<u>Possible Source or Sources of Contamination</u>	<u>Ground Drains</u>	<u>Ultimate Drain</u>	<u>Proximate Specific Sample Points</u>	<u>Sample Points</u>	<u>Collected Samples Counts</u>
K-105-8 K-12 K-305 K-312 K-1410	Process Bldgs. " " " " " Process Service Bldg.	As given above. " " " Contam. dust thru vents, or holed or washed to ground or interior drains. As above	SD & SS SD & SS SD & SS SD & SS SD & SS	As above NW of K-1031	(10) At pipe opening on creek bank and at SS manholes* (5)	Near east bank Poplar Creek at 3.9-B.8 on map	
K-1031	Drum Storage	As above	SD & SS	As above N of K-131	(3) At culvert open- ing on creek bank N of K-131 and at SS manholes* (6)	At Poplar Creek Bend, near S bank at 3.6-C.2 on map.	
K-131 K-631	Feed Point Tails Removal	Minor Spills, or dusting from open connections or contaminated equipment	SD & SS	As above NE of K-131	(2) At SD opening outside fence NW of K-131 and at SS manhole*	Poplar Creek N of K-131	
K-132 (plus part of K-131)	Absorption system (now used for salvage)	Spills, solution leakage, dusting.	SD & SS	As above Poplar Creek N & W of Yard	(3) In concrete ditches at fence (During rain storm only, as ditches are other- wise dry)	Poplar Creek N & W of Yard	
K-1066	Drum Storage Yard	Contamination from drums rain washed to ground.	Open ditches only				

\* (consult building print)

Section Number.	Building Identification	Possible Source or Sources of Contamination	Drainage possibilities	Ground Drains	Ultimate Drain	Proximate Specific Sample Points	Collected Sample Points
I-1262	River Scrap Yard	Contamination rain wash- ed to ground from equip- ment, thence drained to Clinch River.	Surface drainage to ditches	Open ditches only	Clinch River via "Bayou"	(2)One in drainage ditch outside fence to left of Yard gate and second at ditch opening to "Bayou" between Yard and Gallaher Gate	At mouth of drainage ditch in "Bayou" be- tween Scrap Yard and Gallaher Gate.
I-1223	Scrap yard storage and office bldgs.						
I-1230							
I-1232							
I-1233							
I-1234							
I-1235							
	Jones & R A scrap piles between River Yard and Power House.	As above	Surface drainage splits to ditches and directly to Clinch R.	Few open ditches only	Along Clinch banks (1)additional at print where ditch starts to pass Carbide Yard flowing E	Clinch River W of Jones yard center	Clinch River W of S-50 center.
S-50	All process and storage buildings	Combination of all above cited reasons, plus actual ground contamination from high pressure vessel breaks resulting in losses to stores. (thence ground) of often exceeding 300lbs C-616 at a tire.	SS & SD	Ditches, Clinch River few catch basins	(6)Approximately 8 Clinch River five SD open ditches empty- ing to Clinch River; and at SS marshes as needed.		

(consult building print)

## Sample No. 1

Remaining tenancy collected sample points.

11. Poplar Creek upstream of all K-25 operations.
12. Clinch River upstream of all K-25 operations.
13. Clinch River downstream of Poplar Creek mouth (2.2-C.8 on map)
14. Sewage disposal plant at manhole before collected lines enter sewer process.
15. Sewage disposal plant at overflow to Poplar Creek.
16. Drinking water anywhere in K-25.
17. Recirculating water anywhere in K-25.
18. K-702-A Powerhouse discharge
19. K-705-C powerhouse intake.
20. K-1002 Cafeteria cooling water.
21. K-1515 Water Purification Plant intake.
22. Poplar Creek, before entrance to Clinch River.
23. K-1239 Ground water sample adjacent to sludge pit.